

Energy Rating and Disclosure in the United States and Europe

Policy Overview

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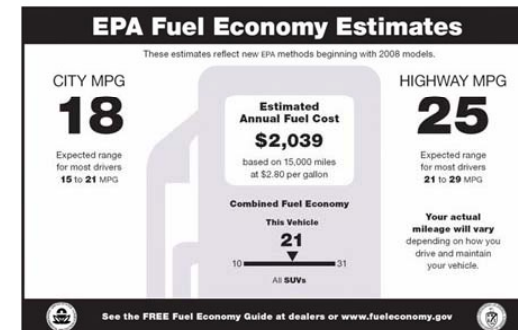
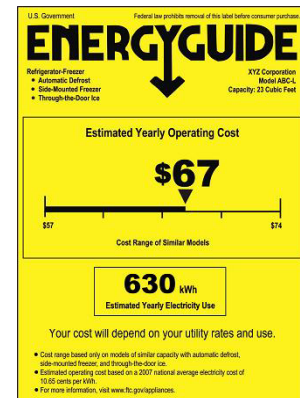
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	Calories	Platters
	meal**	
	300	
	450	Hot Cakes
	600	Hot Cakes
	580	Big Breakfast
	660	Deluxe Breakfast
	560	Breakfast
	570	

Nutrition Facts		
Serving Size 1 cup (228g)		
Servings per Container 2		
Amount Per Serving		
Calories 280	Calories from Fat 140	
% Daily Value*		
Total Fat 13g	25%	
Saturated Fat 5g	10%	
Trans Fat 2g		
Cholesterol 2mg	10%	
Sodium 600mg	26%	
Total Carbohydrate 31g	10%	
Dietary Fiber 3g	0%	
Sugars 5g		
Protein 5g		
Vitamin A 4%	Vitamin C 2%	
Calcium 15%	Iron 4%	
*Percent Daily Values are based on a 2000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.		
	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	Less than 300g	375g
Fiber	25g	30g
Calories per gram:		
Fat 9	Carbohydrate 4	Protein 4

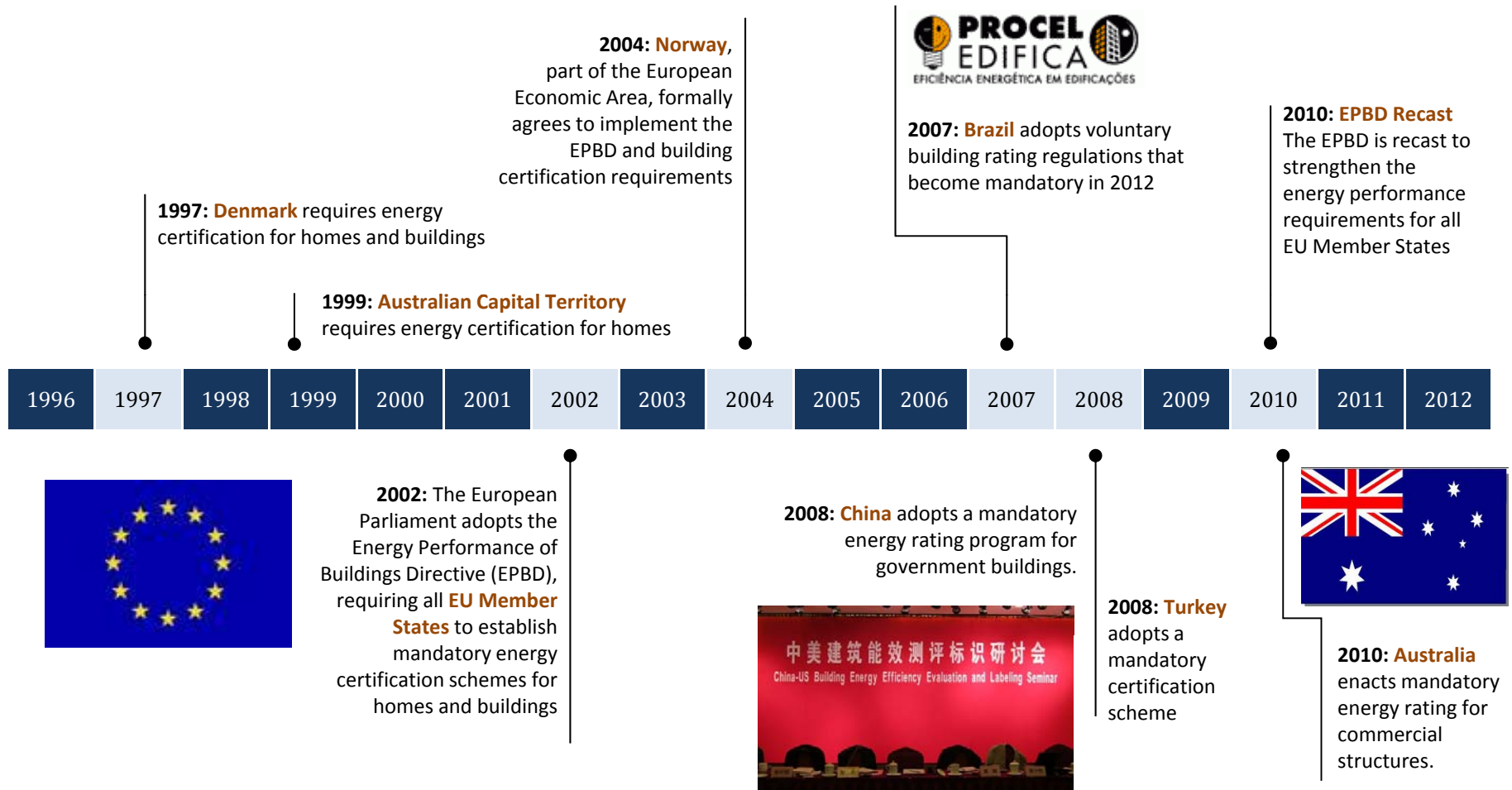


No information = no action

Governments are assessing what drives demand and competition in other industries

- How can markets work more effectively?
- How can demand for energy efficiency increase without public subsidies?
- How can policy help reduce energy costs for businesses and consumers and create jobs?
- How can greenhouse gas reductions be achieved in existing buildings?

INTERNATIONAL POLICY TIMELINE

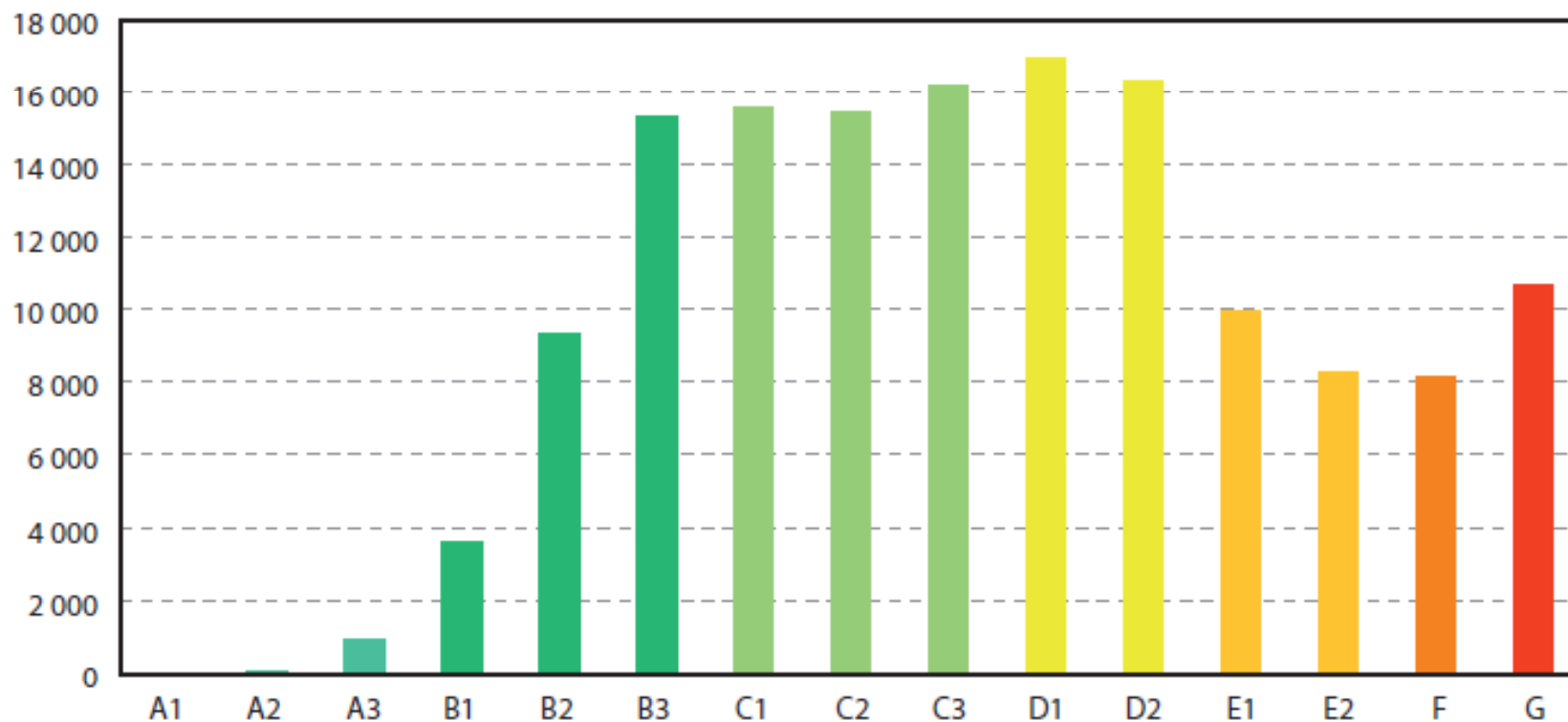


ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

- Adopted 10 years ago and applies to all EU Member States
 - Requires certification (rating) for new and existing dwellings, nonresidential and government buildings
 - Triggered by sale or lease of building
 - Member States could choose between asset and operational ratings. Most use asset ratings for new construction and small structures, and operational ratings for government buildings and large commercial buildings
 - Most programs implemented 2006-2010
- EPDB Recast adopted in 2010
 - Addressed issues in original legislation and added new requirements: EPC enforcement and disclosure at time of listing

ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

Ireland Energy Performance Certificates (2010)

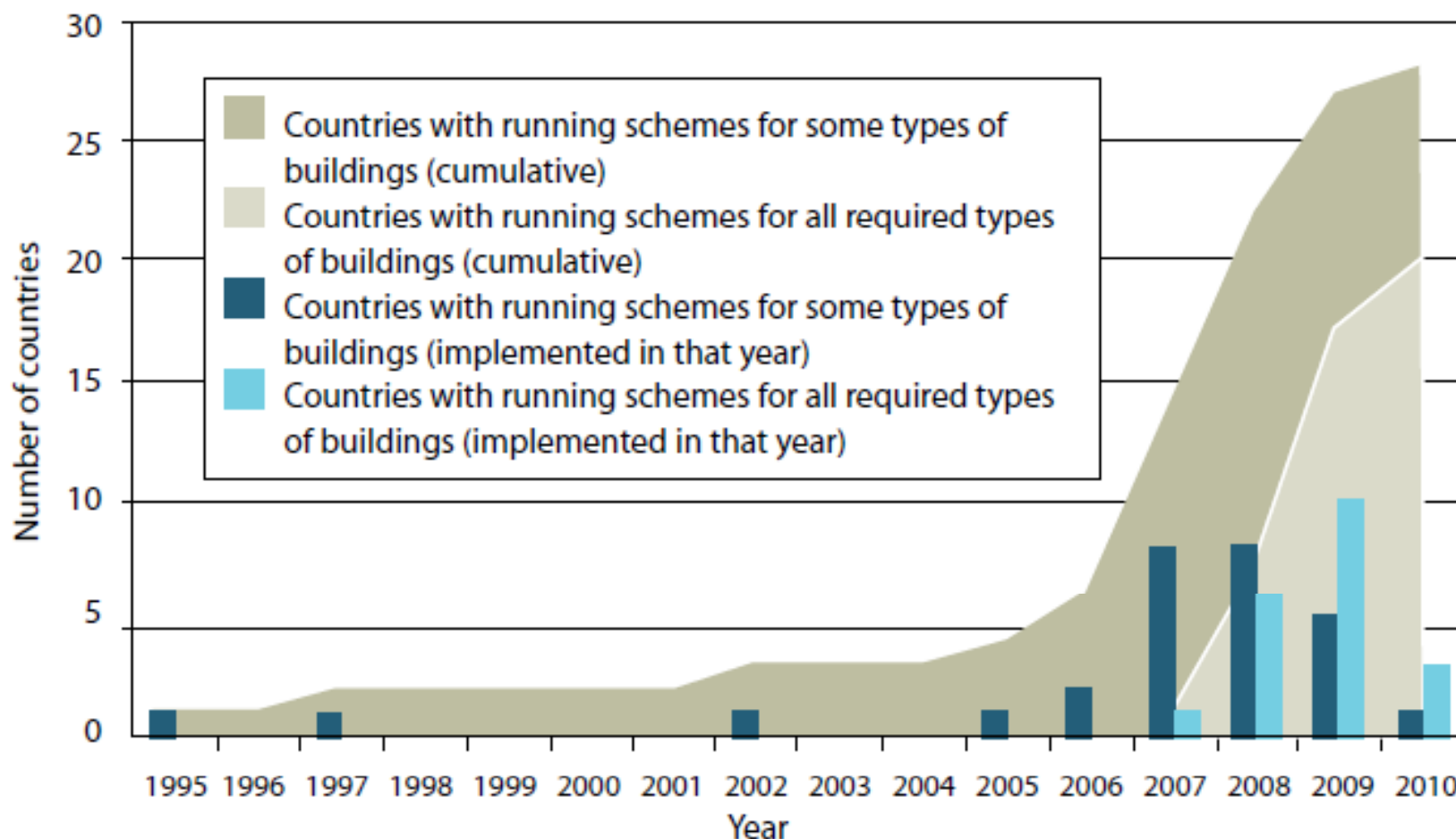


- 142,000 total certificates in Aug. 2010
- 4,800 nonresidential

ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

Figure 2B1 - Timeline of the Energy Performance Certificate implementation (EPBD 2002/91/EC)

Source: BPIE survey



ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

TABLE 6: INFORMATION ABOUT PUBLIC ACCEPTANCE IN THE 12 MEMBER STATES

Public acceptance	Use of certificates at sale/rent	Perception of usefulness by the public	Public acceptance	Use of certificates at sale/rent	Perception of usefulness by the public
AT	★★	★	IE	★★★★★	★★★★★
BE (Flanders)	★★★★	★★★	NL	★★	★★
CZ	★	★	PL	★★	★
DK	★★★	★★	PT	★★★★★	★★
FR	★★	★★	ES	★	★
DE	★★	★			
HU	★	★			

★	Improvement desirable	★★★★	Good
★★	Room for improvement	★★★★★	Very good

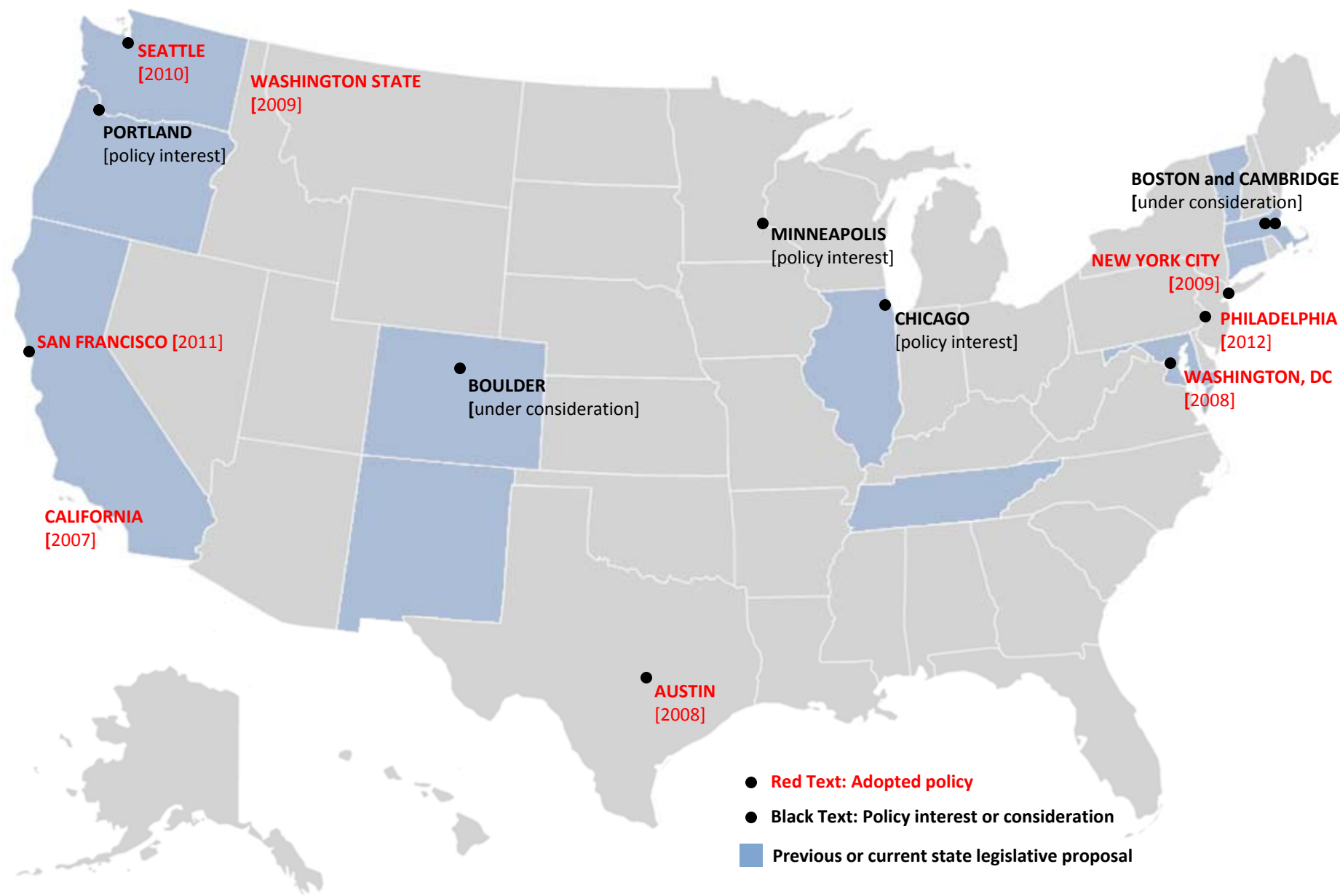
EPBD IMPLEMENTATION STATISTICS

- 11 Member States established national certification registers
 - 7 more under development, 10 do not have databases
- 19 Member States have penalties for noncompliance, 10 do not
- Certification costs set by market – average 0.5 – 3 Euro per m² nonresidential

CONTINUING CHALLENGES

- 9 Member States not in compliance with EPBD certification requirements
- Complaints in some members states about quality of EPCs/assessors
- Asset rating procedure technical and difficult for stakeholders to understand
- Poor perception by public about effectiveness of certificates
- Little standardization and comparability between Member States
- Poor initial compliance – $\frac{3}{4}$ of programs had “undesirably low” compliance rates in 2010

U.S. BENCHMARKING AND DISCLOSURE POLICIES, 2007 - PRESENT



LOCAL REQUIREMENTS AND POLICY STATUS

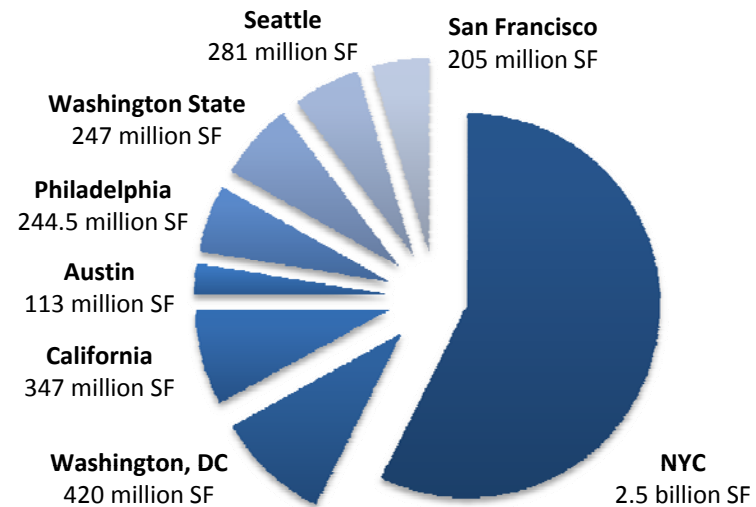
Jurisdiction	Benchmarking (Building Type and Size)		Reporting	Disclosure					Audits	RCx
	Non-residential	Multi-family	To local gov't	On public web site	To tenants	To transactional counterparties				
						Sale	Lease	Financing		
Austin	10k SF+	5+ units	✓	-	-	✓	-	-	✓	-
California	10k SF+	-	✓	-	-	✓	✓	✓	-	-
Washington, DC	50k SF+	50k SF+	✓	✓	-	-	-	-	-	-
New York City	50k SF+	50k SF+	✓	✓	-	-	-	-	✓	✓
San Francisco	10k SF+	-	✓	✓	✓	-	-	-	✓	-
Philadelphia	50k SF+	-	✓	✓	-	✓	✓	-	-	-
Seattle	20k SF+	20k SF+	✓	-	✓	✓	✓	✓	-	-
Washington state	10k SF+	-	-	-	-	✓	✓	✓	-	-

Boston	Policy Interest
Boulder	Policy Interest
Cambridge	Policy Interest
Chicago	Policy Interest
Minneapolis	Policy Interest
Portland	Policy Interest

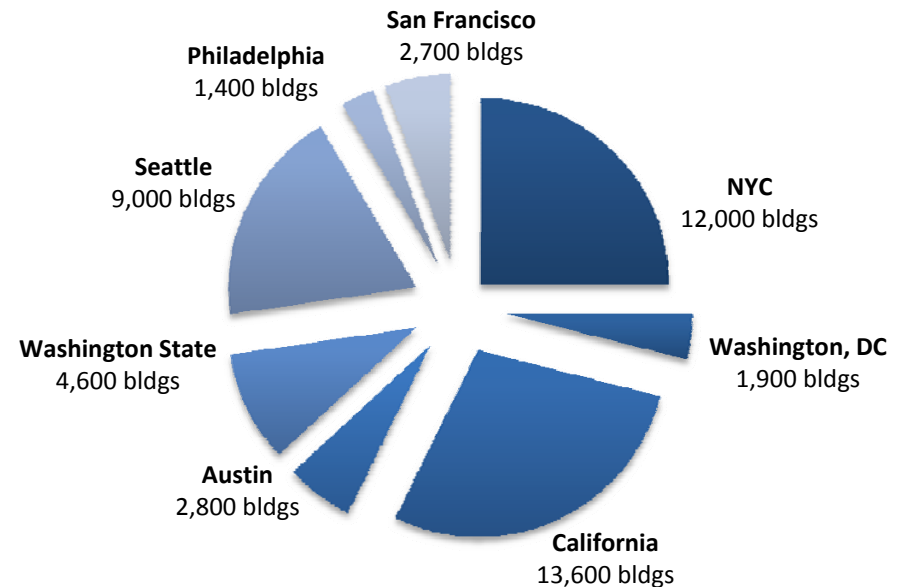
Illinois, Massachusetts	Pilot program in progress
Connecticut, Colorado, Maryland, New Mexico, Oregon, Tennessee, Vermont	Previous legislative effort

Existing policies will
impact more than
60,000
buildings
totaling more than
4 billion SF of
floor space in major
real estate markets
over the next few
years

BUILDING AREA (IN SQUARE FEET) COVERED ANNUALLY



NUMBER OF BUILDINGS COVERED ANNUALLY



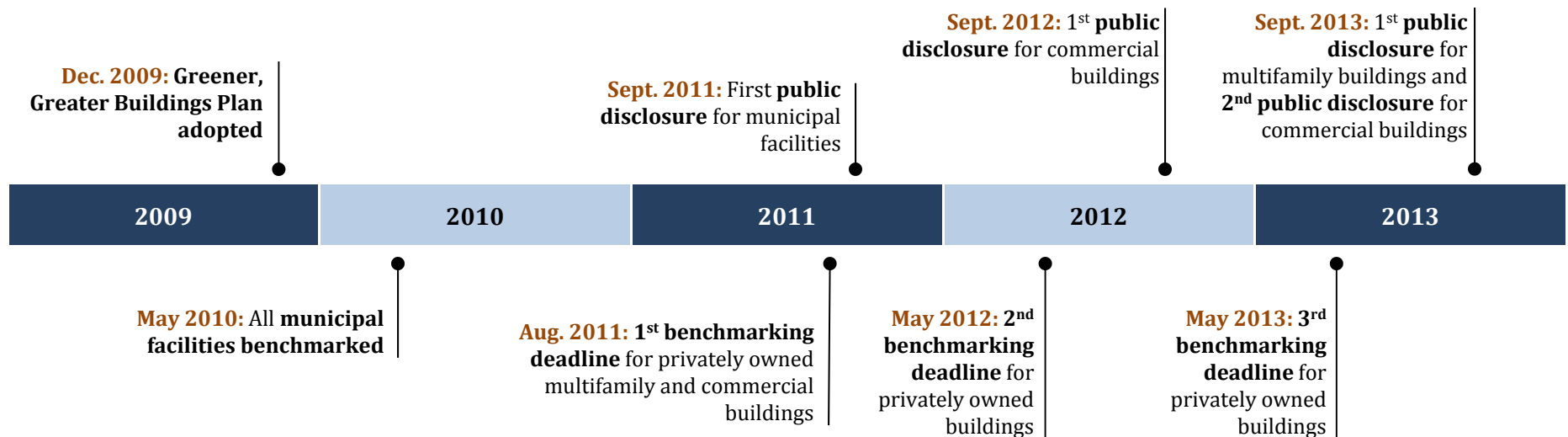
NEW YORK CITY GREENER, GREATER BUILDINGS PLAN

- Energy benchmarking and public disclosure for large buildings, + mandatory audits, RCx, lighting upgrades and tenant sub metering
- NYC buildings account for \$15 billion annually in energy costs and 94% of electricity usage
- Properties over 50,000 SF account for ~2% of building stock by number, but 50% of floor area
- 85% of existing buildings will still exist in 2030



YEAR 1 RESULTS: NEW YORK CITY

- Approximately 75% overall compliance, 10,000+ buildings reported
 - Major outreach and training effort
 - Benchmarking help center by CUNY/NYSERDA
 - Data supplied by ConEd
- Significant participation by energy efficiency services vendors and consultants
- More than 2,300 city buildings benchmarked and disclosed
- City-wide aggregate analysis of building energy data published in 2012
- Year 2 compliance deadline was May
- Benchmarking data for commercial buildings published in Sept. 2012
- More cities and states looking to replicate “integrated” policy suites



ENERGY INTENSITY TRENDS

Figure 24: Median Energy Use Per Sq Ft by Building Type and Age Group

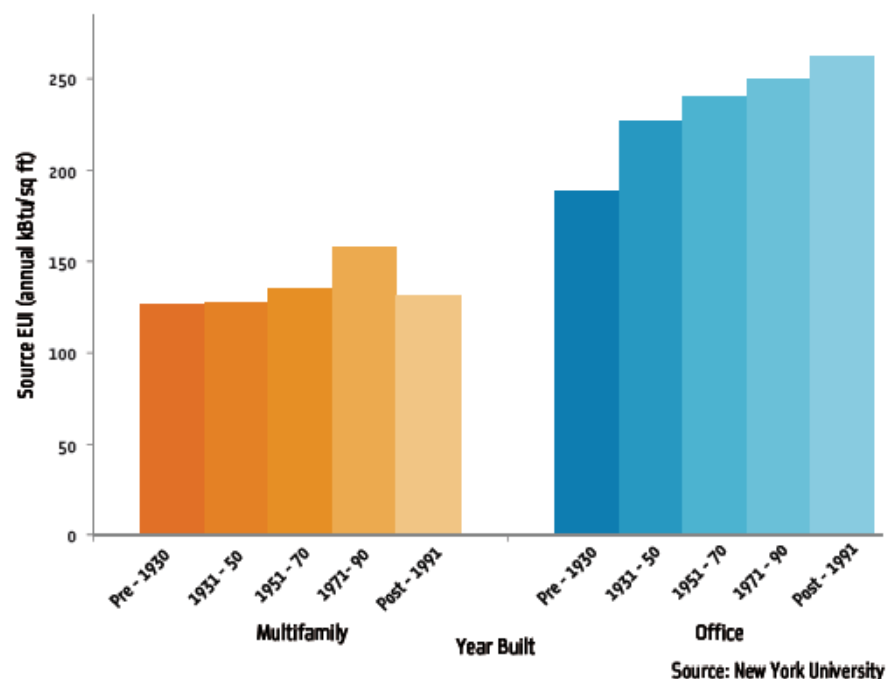
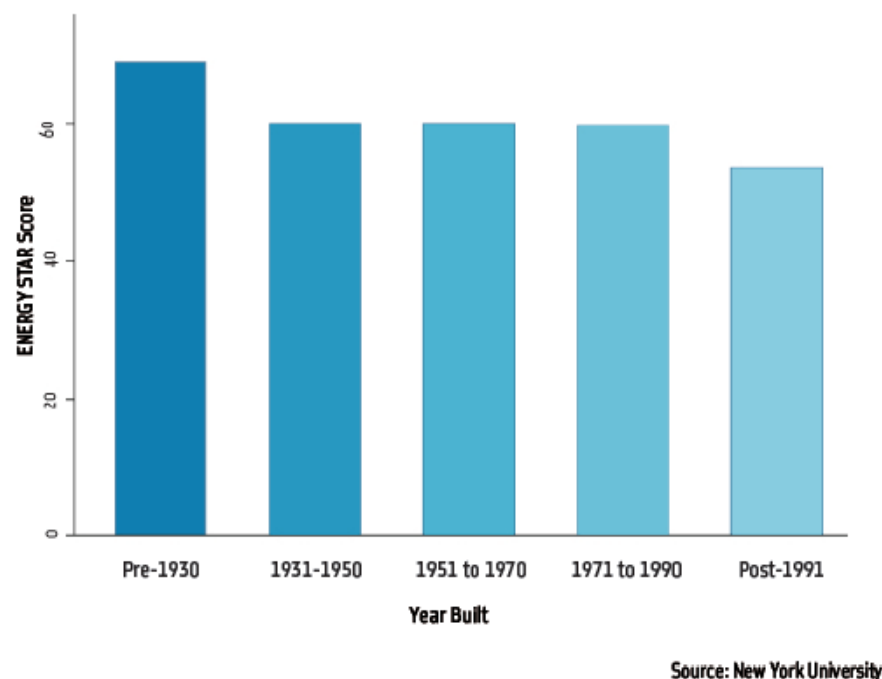
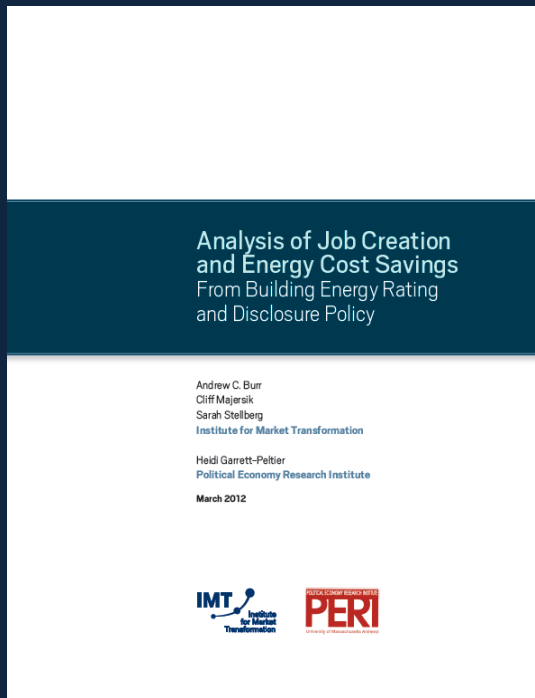


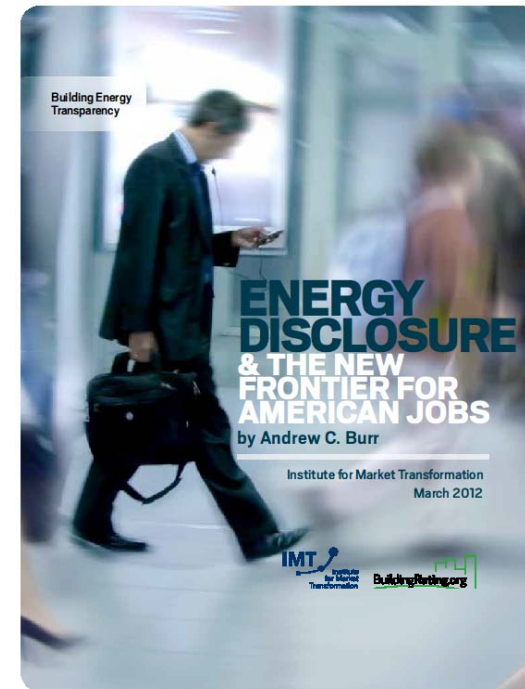
Figure 25: ENERGY STAR Score for Office Buildings Based on Year Built



- Energy intensity is greater in newer buildings than older buildings
- ENERGY STAR scores are higher in older buildings than newer buildings



- Economic analysis of benchmarking and disclosure policy advised by leaders from USGBC, TIAA-CREF, Jones Lang LaSalle, CB Richard Ellis NYU, Bentall Kennedy
 - Create more than 59,000 net new jobs in 2020
 - Reduce energy costs for building owners and businesses by \$18 billion in 2020



- Job creation study in New York City found service providers hiring as a result of Greener, Greater Buildings Plan
 - Primary issue is demand, not financing
 - Lots of competition among vendors to engage owners on benchmarking with other requirements pending

CHALLENGES

- Policy harmonization
 - Industry groups are calling for more standardization to ease multi-jurisdictional compliance
- Owner access to energy consumption data
 - Benchmarking requirements must be accompanied by appropriate utility data access practices
- Quality assurance
 - No jurisdiction has established rigorous QA measures for data
- Rating/data tools
 - Portfolio Manager can be improved; asset ratings can complement operational ratings if deployed properly; DOE SEED database can ease IT burdens for jurisdictions
- Multifamily benchmarking is important to include but is trickier than commercial



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